

SPHS-SPEECH & HEARING SCIENCE

SPHS 2110. Introduction to Communication Disorders 3 Credits (3)

This introductory course provides an overview of common speech, language, and hearing disorders in children and adults including etiologies, characteristics, prevention, identification, assessment and intervention. The course provides an overview of the field of speech-language pathology and audiology. May be repeated up to 3 credits.

Learning Outcomes

1. Describe normal human communication anatomy and processes as they relate to speech and language production.
2. Describe the nature of speech, language, and hearing disorders and differences.
3. Describe the principles of prevention, assessment and intervention of communication disorders.
4. List requirements for licensure, certification, and other relevant professional credentials.
5. Exhibit basic knowledge of contemporary professional issues in speech-language pathology.
6. List possible psychosocial implications of various communication disorders.
7. Identify cultural, educational, legal, and ethical issues related to communication disorders.
8. Describe the scope of practice of speech-language pathologists and audiologists.

SPHS 4510. Phonetics 3 Credits (3)

The science of phonetics, including work with the International Phonetic Alphabet. May be repeated up to 3 credits.

Prerequisite: C- or better in SPHS 2110; Cumulative GPA of 3.2 or better.

Learning Outcomes

1. Students will learn and be able to describe the linguistic and articulatory characteristics of speech sounds.
2. Students will be able to identify, recall and extrapolate information about the biological bases of speech sound production.

SPHS 4520. Audiology 3 Credits (3)

Anatomy and physiology of the auditory system, bases of auditory disorders, and basic audiometric procedures. Restricted to: C DS,C D majors. May be repeated up to 3 credits.

Prerequisite: B or better in SPHS 2110, and a minimum of 3.2 GPA.

Learning Outcomes

1. Describe the properties of sound.
2. Define the terms used to describe hearing and hearing loss.
3. Describe the anatomy and physiology of the auditory system at an introductory level.
4. Identify basic audiometric procedures.
5. Interpret basic audiometric test findings.
6. Recognize common auditory (and related) disorders.
7. Discuss basic approaches to managing auditory (and related) disorders.

SPHS 4610. Language Acquisition 3 Credits (3)

This course introduces students to the study of the development of language, speech, and communication. Includes language sampling. May be repeated up to 3 credits.

Prerequisite: C- or better in SPHS 2110; Cumulative GPA of 3.2 or higher.

Learning Outcomes

1. Describe the development of phonology, semantics, morphology, syntax, and pragmatics.
2. Describe biological, cognitive, social aspects of language acquisition.
3. Describe the current methods for studying language acquisition and critically evaluate their contributions to our understanding of how children learn language.
4. Describe and critically evaluate current theories of language acquisition in relation to the available data and to each other.
5. Apply basic observational methods to draw conclusions about a child's level of language knowledge.

SPHS 4620. Speech and Hearing Science 3 Credits (3)

Basic concepts and theories in acoustics, speech production and speech perception. Includes laboratory experience with instrumental measurement and analysis of speech systems. May be repeated up to 3 credits.

Prerequisite: C- or better in SPHS 2110, SPHS 4510, SPHS 4520; and minimum 3.2 GPA.

Learning Outcomes

1. Students will learn basic acoustic physics and be able to describe simple harmonic motion, complex waveforms, and resonances.
2. Students will learn about the acoustic consequences of the three articulatory parameters tongue height, tongue advancement, and lip rounding during vowel production in order to be able to understand the acoustics of vowels and diphthong acoustics.
3. Students will learn the acoustic properties of English consonants including stops, fricatives, affricates, liquids, glides, and nasals.
4. Students will learn about speech perception, including categorical perception, theories of speech perception as well as some basic psychoacoustic properties such as the decibel scale.

SPHS 4710. Speech Disorders Across the Lifespan 3 Credits (3)

Bases, symptoms, etiologies, and clinical management of issues related to disorders of articulation, phonology, voice and resonance, and fluency. Restricted to: CD majors. May be repeated up to 3 credits.

Prerequisite: SPHS 2110, SPHS 4510, SPHS 4520, SPHS 4620, and SPHS 4610; and minimum 3.2 GPA.

Learning Outcomes

1. Describe diverse etiologies of speech disorders and compare/contrast assessment procedures (ASHA Standard III-B)
2. Define and compare/contrast the classification for a variety of speech disorders. (ASHA Standard III-C)
3. Differentiate between a speech disorder vs a difference that can be attributed to culturally and linguistically different groups. (ASHA Standard III-D)
4. Describe evidence-based treatment; evaluate treatment-efficacy evidence for a variety of speech disorders. (ASHA Standard III-D)

SPHS 4715. Language Disorders Across the Life Span 3 Credits (3)

Bases, symptoms, etiologies, and treatment of language disorders. Includes review of normal language acquisition. May be repeated up to 9 credits.

Prerequisite: SPHS 2110, SPHS 4510, SPHS 4520, SPHS 4610, SPHS 4620, 3.2 cumulative GPA.

Learning Outcomes

1. Describe diverse etiologies of language disorders and compare/contrast assessment procedures (ASHA Standard III-B).
2. Define and compare/contrast the classification for a variety of language disorders. (ASHA Standard III-C).
3. Differentiate between a disorder vs a difference that can be attributed to culturally and linguistically different groups. (ASHA Standard III-D).
4. Describe evidence-based treatment; evaluate treatment-efficacy evidence for a variety of language disorders. (ASHA Standard III-D).

SPHS 4720. Anatomy and Physiology of Speech Mechanisms

3 Credits (3)

Structure and function of systems underlying human speech sound production and processing, including respiratory, phonatory, and articulatory components. May be repeated up to 3 credits.

Prerequisite: C- or better in SPHS 2110, SPHS 4510, SPHS 4520, SPHS 4620, and SPHS 4610; and minimum 3.2 GPA.

Learning Outcomes

1. Students will learn and be able to identify respiratory anatomy important for speech production.
2. Students will be able to identify, recall and extrapolate information about respiratory physiology.
3. Students will learn and be able to identify laryngeal anatomy important for speech production.
4. Students will be able to identify, recall and name important physiological mechanisms for controlling vocal function.
5. Students will learn and be able to identify supraglottal anatomy important for speech production.
6. Students will be able to identify, recall and name physiologic events about resonance and articulation.

SPHS 4810. Clinical Methods and Procedures

3 Credits (3)

Guidelines and procedures associated with the clinical and supervisory processes. Provide opportunities to complete the supervised clinical observation requirement for participation in clinical practicum. Restricted to: C DS,C D majors. May be repeated up to 3 credits.

Prerequisite: B or better in SPHS 2110, SPHS 4510, SPHS 4520, SPHS 4620, SPHS 4610; and minimum 3.2 GPA.

Learning Outcomes

1. Demonstrate basic use of professional terminology in the area of Speech-Language Pathology
2. Demonstrate knowledge of principles and techniques of the observation of nonverbal and verbal behavior of clients and clinicians using oral and written reporting, as well as in-class discussions.
3. Complete twenty-five clock hours of supervised clinical observation of speech, language, and hearing services.

SPHS 4820. Neural Bases of Communication Disorders

3 Credits (3)

Study of the neuroanatomy and neurophysiology of communication and communication disorders. Includes review of the central nervous system and peripheral nervous system relationship to speech motor control, language, and hearing. Restricted to: C DS,C D majors. May be repeated up to 3 credits.

Prerequisite: B or better in SPHS 2110, SPHS 4610, SPHS 4510, SPHS 4520, SPHS 4620, SPHS 4710, SPHS 4720, 3.0 GPA or better.

Learning Outcomes

1. Demonstrate knowledge of the gross anatomy and physiology of the central, peripheral, autonomic nervous systems.
2. Understand the clinical manifestations associated with injury/disease to a given regions/systems within the nervous system.

SPHS 4830. Aural Rehabilitation

3 Credits (3)

Overview of hearing aids and amplification devices including cochlear implants. Review of the bases and psychosocial aspects of hearing loss. Clinical management of hearing loss consistent with ASHA's scope of practice for SLPs. Restricted to: C DS,C D majors. May be repeated up to 3 credits.

Prerequisite: B or better in SPHS 2110, SPHS 4510, SPHS 4520, SPHS 4620, SPHS 4610, SPHS 4710, SPHS 4720; and 3.2 GPA or higher.

Learning Outcomes

1. Define and use the appropriate terminology when discussing hard of hearing and deafness.
2. Describe and explain the effects of hearing impairment on speech-language acquisition and auditory/speech perception.
3. Describe the effects of hearing impairment on various aspects of life (e.g., cognitive, educational, occupational, and psycho-social aspects in all age ranges).
4. Identify the communication needs and develop a basic understanding of common intervention options including communication strategies, auditory training, speech reading, hearing aids, assistive devices, and cochlear implantation.
5. Be acquainted with the relevant public laws.

SPHS 5110. Research Methods

3 Credits (3)

Introduction to basic qualitative, quantitative, and single subject research methodology in speech-language pathology and audiology. Restricted to CD,CDS majors. May be repeated up to 3 credits.

Prerequisite: a course grade of B- or higher in all graduate courses and an overall GPA of 3.0 or higher.

Learning Outcomes

1. Demonstrate knowledge of the concepts of research ethics and integrity including protection of human subjects.
2. Demonstrate comprehension of concepts of evidence-based practice.
3. Locate, use, and critically evaluate library and online sources that support the investigation of research questions pertinent to speech-language and hearing science.
4. Interpret basic single variable and two-variable statistical procedures appropriate for single and group designs.
5. Read, abstract, and critically evaluate pertinent research.

SPHS 5120. Assessment of Communication Disorders

3 Credits (3)

Diagnostic theories and management of communication disorders using standardized and descriptive methodology. Includes the practice of interviewing, testing, and oral and written reporting. Restricted to: C DS,C D majors. May be repeated up to 3 credits.

Prerequisite: A course grade of B or higher in all graduate courses and an overall GPA of 3.0 or higher.

Learning Outcomes

1. Demonstrate knowledge of testing statistics and basic concepts in psychometric assessment.
2. Formulate, implement and summarize one complete successful and efficient assessments: including pre-planning meeting, interview

design and implementation, administration of instruments, analysis and integration of results and report writing.

3. Review, summarize and critique one assessment tool for design, use, interpretation and cultural/linguistic inclusivity to classmates.
4. Given case study information, students will be able to: choose an appropriate instrument from assessment tools reviewed; develop an assessment plan for a client; write a report and develop treatment goals.

SPHS 5130. Pediatric Language and Disorders

3 Credits (3)

Normal communication development of neonates, infants, toddlers, and preschoolers; etiologies, and treatment of cognitive, linguistic and social elements of communication problems in family systems. Restricted to: C DS,C D majors. May be repeated up to 3 credits.

Prerequisite: Minimum grade of B and an overall GPA of 3.0 or higher.

Learning Outcomes

1. Demonstrate a working knowledge of the major theories of language acquisition and theoretical perspectives of disorders.
2. Demonstrate an understanding of the aspects related to dialect and second language acquisition of English.
3. Demonstrate knowledge of the core principles of language assessment for the pediatric population (zero-five year old).
4. Summarize and interpret content material relating to pediatric language development/disorders.

SPHS 5140. Speech Sound Disorders

3 Credits (3)

Advanced study of the symptoms, etiologies, assessment, and clinical management of speech sound disorders including those due to cleft palate and disorders of resonance. May be repeated up to 3 credits.

Prerequisite: A minimum grade of B in all graduate courses and a minimum overall GPA of 3.0 is required.

Learning Outcomes

1. Course Goals – Fulfillment of the following Standards of the American Speech-Language-Hearing Association (ASHA): IV-B, IV-C, IV-D, and IV-F: Students will be able to explain the classification of speech sounds based on different phonological theories, and they will be able to phonetically transcribe standard and non-standard speech. Summative Assessment: Test I (IV-B, IV-C)
2. Students will be able to describe the impact of anatomical, motor, sensory, cognitive-linguistic, and social factors in speech development, and developmental profiles associated with developmental and syndromic conditions. Summative Assessment: Test 2 (IV-C)
3. Students will be able to identify appropriate assessment tools and practice their use for the diagnosis of speech sound disorders. Formative Assessment: Project 1 (IV-D)
4. Students will learn to research different treatment approaches for the successful remediation of speech sound disorders and to integrate research into evidence-based clinical practice. Formative Assessment: Research Article Presentation Treatment Presentation (IV-F)
5. Students will familiarize themselves with current research in the area of speech sound disorders as well as foundational original research papers in the field. Formative Assessment: Research Article Presentation (IV-F)

SPHS 5210. School Age Language and Disorders

3 Credits (3)

Normal communication-learning development of elementary, secondary, and postsecondary students; etiologies, diagnosis, and treatment of interpersonal communication and language-based academic disorders.

Restricted to: C DS,C D majors. May be repeated up to 3 credits.

Prerequisite: A minimum grade of B in all graduate courses and an overall GPA of 3.0 or higher.

Learning Outcomes

1. Demonstrate a working knowledge of legislation governing service provision in the schools (IDEIA, NCLB) and implementation practices (IEP, five-hundred-four plan, RtI).
2. Demonstrate knowledge of normal language development of school-age children.
3. Demonstrate understanding of language disorders relevant to school-age children.
4. Demonstrate knowledge of evidence-based intervention methodologies for the treatment of language disorders in the school-aged population.

SPHS 5220. Adult Neurogenic Language Disorders

3 Credits (3)

Etiologies, diagnosis, assessment, and treatment of adult neurogenic language disorders, especially aphasia due to stroke and traumatic brain injuries. Restricted to: C DS,C D majors. May be repeated up to 6 credits.

Prerequisite: A course grade of B or higher in all graduate courses and an overall GPA of 3.0 or higher.

Learning Outcomes

1. Characterize aphasia and its sub-types based on lesion data and behavioral profiles.
2. Specify standardized and non-standardized measures to evaluate clients with aphasia.
3. Describe principles and techniques to maximize linguistic recovery in individuals with aphasia.
4. Describe the etiology and patterns of recovery associated with aphasia and right-hemisphere disorder.
5. Describe cognitive processes and systems, including language, attention, memory, and executive function, and their relationship to adult neurogenic language disorders.
6. Apply theoretical perspectives of language, cognition, and neurological function as they relate to adult neurogenic language disorders.

SPHS 5230. Fluency Disorders

2-3 Credits (2-3)

Speech fluency development and the disorders of stuttering, cluttering, and neurogenic dysfluency. Restricted to: C DS,C D majors.

Prerequisite: Graduate GPA of 3.0 or higher.

Learning Outcomes

1. Define/describe terminology and nomenclature associated with the study of human fluency disorders.
2. Identify constitutional and environmental conditions that contribute to fluency disorders.
3. Propose methods of assessing and treating the affective, behavioral and cognitive aspects of fluency disorders across the lifespan, including the use of augmentative devices for fluency.
4. Be able to explain the role of counseling in treating fluency disorders and how that role changes with the age of the client.
5. Be able to explain the role of counseling in treating fluency disorders and how that role changes with the age of the client.

SPHS 5310. Introduction to Augmentative and Alternative Communication**3 Credits (3)**

Assessment and intervention for children and adults with developmental disabilities; Alternative communication strategies and systems for individuals with severe speech and/or language impairments. Restricted to: C DS,C D majors. May be repeated up to 3 credits.

Prerequisite: Graduate standing; overall GPA of 3.0.

Learning Outcomes

1. Understand and consider physical and psycho-social, linguistic, and cognitive characteristics of AAC users.
2. Describe assessment methods to determine the best fit of AAC systems to meet the needs of AAC users.
3. Understand how to provide training in the use of various AAC systems for AAC users, their families, and caregivers and educators.

SPHS 5320. Cognitive Communication Disorders**3 Credits (2,3)**

Topics include attention, memory, executive function, and underlying neuropathologies, with emphasis on assessment, diagnosis, prognosis, treatment and recovery processes in cognitive communication disorders related to dementia and traumatic brain injury. Restricted to: C DS,C D majors. May be repeated up to 6 credits.

Prerequisite: 3.0 Graduate GPA.

Learning Outcomes

1. Describe dementing diseases and how they affect cognitive-communicative functioning.
2. Specify standardized and non-standardized measures to evaluate clients with dementia.
3. Describe principles and techniques to maximize communicative functioning of individuals with dementia.
4. Describe the epidemiology and etiology of traumatic brain injury.
5. Specify the relationships between the mechanisms of traumatic brain injury and the nature and severity of cognitive-communicative impairments.
6. Specify appropriate diagnostic and treatment methods for individuals with different severity levels of traumatic brain injury.
7. Describe cognitive processes and systems, including attention, memory, and executive function, and their relationship to cognitive communication disorders.

SPHS 5330. Dysphagia**3 Credits (3)**

Study of the anatomy and physiology of swallowing and upper aerodigestive systems. Review of the bases and etiologies of child and adult swallowing disorders, including diagnosis, assessment, and treatment. Restricted to: C DS,C D majors. May be repeated up to 3 credits.

Prerequisite: A course grade of B- or higher in all graduate courses and an overall GPA of 3.0 or higher.

Learning Outcomes

1. Define the anatomy and physiology of normal swallowing and causes of abnormal swallow in the pediatric to geriatric age ranges.
2. Define dysphagia team components.
3. Describe protocol for clinical and instrumental dysphagia evaluation.
4. Describe dysphagia diagnosis and treatment.

SPHS 5335. Swallowing and its Disorders in the Pediatric Population**2 Credits**

This class is an introduction to swallowing disorders, normal and abnormal swallow function for the pediatric population. The primary focus of instruction will include normal and impaired swallow function, evaluation and treatment. Your instruction will include lecture, videos, small group discussion, and occasional labs. Of note, this is an introductory course to build a strong foundation of pediatric dysphagia. Your internships, fellowships and professional careers will help build upon this foundation. May be repeated up to 2 credits.

Prerequisite/Corequisite: SPHS 5330.

Learning Outcomes

1. Students will be able to define the anatomy and physiology of normal swallowing and causes of abnormal swallow in the pediatric population.
2. Students will be able to define dysphagia team components and describe protocol for clinical dysphagia evaluation in infants and children.
3. Students will demonstrate knowledge of dysphagia diagnosis and treatment as well as demonstrate ability to document diagnostic findings for the pediatric population.
4. Students will be able to explain indications and methods of non-oral nutrition and ethical considerations when working with pediatric clients from different cultural backgrounds.

SPHS 5340. Motor Speech Disorders**3 Credits (3)**

Advanced studies of dysfunction of the nervous system that affect speech. Includes evaluation, diagnosis, and treatment of speech apraxias and dysarthrias. Restricted to: C DS,C D majors. May be repeated up to 3 credits.

Prerequisite: A course grade of B or higher in all graduate courses and an overall GPA of 3.0 or higher.

Learning Outcomes

1. Recognize evaluate motor speech disorders - differentiating between flaccid, spastic, unilateral upper motor neuron, ataxic, hypokinetic, hyperkinetic, mixed dysarthria, as well as apraxia.
2. Identify the etiology of the various motor speech disorders.
3. Demonstrate knowledge of methods to assess the various subsystems (resonance, articulation, phonation, and respiration) and determine relative contribution of each system to the motor speech disorder.
4. Demonstrate knowledge of various interventions for clients with various motor speech disorders.

SPHS 5350. Voice Disorders/Head and Neck Anomalies**3 Credits (3)**

Advanced studies of anatomy and physiology of the vocal tract with emphasis on diagnosis, assessment, and treatment of voice disorders, laryngectomy, cleft palate, and other oral-facial anomalies. Restricted to: C DS,C D majors. May be repeated up to 3 credits.

Prerequisite: A course grade of B or higher in all graduate courses and an overall GPA of 3.0 or higher.

Learning Outcomes

1. Recognize and describe relevant anatomy and physiology of normal voice production, including laryngeal and respiratory anatomy and physiology
2. Identify and discuss structural, neurologically-based, and functional voice disorders.
3. Demonstrate knowledge of approaches to assess voice disorders, including objective and subjective measures.

4. Explain and demonstrate selected intervention techniques for voice disorders.

SPHS 5360. Communication Disorders in Neurodiverse Populations
3 Credits (3)

This course is primarily aimed at providing meaningful foundations for the application of evidence-based intervention designs that enhance the development of communication skills for individuals with Autism Spectrum Disorders across the lifespan. May be repeated up to 6 credits.

Learning Outcomes

1. Identify and implement evidence-based interventions for individuals with ASD across a range of ages and abilities
2. Evaluate several evidence-based interventions and determine the best fit based on a client scenario
3. Discuss key features of evidence-based interventions for individuals with ASD
4. Implement evidenced communication interventions with individuals with ASD

SPHS 5410. Professional Issues and Multicultural Practices in Communication Disorders
3 Credits (3)

This course includes a range of topics pertinent to students entering professional practice as speech-language pathologists including current legal, cultural, ethical, and clinical service provision issues. Restricted to: C DS,C D majors. May be repeated up to 3 credits.

Prerequisite: Minimum of 3.0 GPA.

Learning Outcomes

1. Describe current issues in professionalism, ethics, and liability in the profession of Speech-Language Pathology.
2. Understand setting-specific employment issues, including working with culturally and linguistically diverse populations.
3. Understand the procedures necessary for obtaining licensure and certification by state and national agencies, as well as maintenance requirements for licensure and certification in Speech-Language Pathology.

SPHS 5510. Advanced Spanish Morpho-Syntax for Education Professionals
3 Credits (3)

This class has been designed for Heritage Speakers of Spanish who work in educational settings. It will cover the essential linguistic theory and fundamental structures of the Spanish language. This includes, but is not limited to, verb morphology, morphosyntactic and syntactic structures.

The main goal of this course is to determine what usages fall within the norms of an individual's speech community, or if there are elements that fall outside those norms. Students have to be fluent in Spanish as course will be conducted in Spanish.

SPHS 5520. Best Practices in Bilingual/Multicultural Assessment for Practitioners
3 Credits (3)

The purpose of this course is to provide future speech-language pathologists, educational diagnosticians and special educators with a foundation for evaluating the linguistic, cognitive and academic skills of students from any cultural linguistic background. The course covers a review of the literature on best practices for working with interpreters during assessments. Practitioners will be expected to gather qualitative information about cultural/linguistic and educational histories of school-age children and integrate those results with the results of standardized tests. Restricted to: C DS,C D majors. May be repeated up to 3 credits.

SPHS 5988. Clinical Education
1 Credit (1)

This course is specifically designed to target the knowledge base necessary to initiate clinical practicum in the CD Program. The learning objectives are based upon the Council of Academic Accreditation in Audiology and Speech-language Pathology (CAA) standards and knowledge areas. These learning outcomes are developed to assist students in clinical practicum and are specific to the services provided to clients of the NMSU Edgar R. Garrett Speech and Hearing Center. Restricted to: C DS,C D majors. May be repeated up to 2 credits.

Corequisite: SPHS 5990.

Learning Outcomes

1. Demonstrate an understanding of successful strategies to work with families and clients from various clinical settings/cultural backgrounds.
2. Demonstrate an understanding of ethical and confidential service delivery.
3. Identify characteristics of properly written clinical reports.
4. Demonstrate skill in oral and written or other forms of communication sufficient for entry into professional practice.
5. Demonstrate knowledge of entry level and advanced certifications, licensure, and other relevant professional credentials.

SPHS 5989. Externship in Communication Disorders
3-9 Credits (3-9)

This course is designed to provide opportunities for the developing clinician to provide treatment to and evaluations for clients in a full term externship experience under the supervision of a licensed SLP. Restricted to: C DS majors. May be repeated up to 9 credits.

Learning Outcomes

1. Various

SPHS 5990. Practicum in Speech-Language Pathology
1-4 Credits (1-4)

Supervised clinical practice in a variety of speech, language, and hearing disorders. Practicum includes diagnostic, treatment, and management work through direct patient/client contact. Attendance at weekly clinical staff meetings is required. Restricted to: C DS,C D majors. May be repeated up to 15 credits.

Prerequisite: Good standing in the graduate school; a course grade of B or higher in all graduate courses and an overall GPA of 3.0 or higher.

Learning Outcomes

1. Various

SPHS 5996. Special Topics
1-9 Credits (1-9)

Individual and/or group study of special topics identified by subtitle. Restricted to: C DS majors. May be repeated up to 9 credits.

Prerequisite: Prior arrangement with faculty; a course grade of B or higher in all graduate courses and an overall GPA of 3.0 or higher.

Learning Outcomes

1. Varies

SPHS 5999. Master's Thesis
1-15 Credits (1-15)

Thesis. May be repeated up to 88 credits.

Learning Outcomes

1. Various